



PRODUCT DATA SHEET

Sikagard[®]-75 EpoCem[®] CA

EPOXY/CEMENT, RESURFACING AND PORE-FILLING MORTAR

PRODUCT DESCRIPTION

Sikagard[®]-75 EpoCem[®] CA is a three-component, epoxy-modified, cementitious, solvent-free, moisture-insensitive, structural resurfacing and pore-filling mortar. It is specially formulated for vertical levelling and structural reprofiling of damp, "green" or saturated surface dry concrete.

WHERE TO USE

Sikagard[®]-75 EpoCem[®] CA may only be used by experienced professionals.

For resurfacing 0.5-3 mm (20 - 120 mil) thick:

- On green or damp concrete, mortar and stone.
- As a thin-film sealer coat for vertical and horizontal surfaces.
- As a temporary moisture barrier prior to the application of resin based coatings [minimum 2 mm (80 mil) thickness]. **Note:** Sikagard[®]-75 EpoCem[®] CA must be sealed with a suitable Sika[®] epoxy coating to form a permanent vapour barrier. Contact Sika Canada for recommendations.
- For repairing spalled and pitted concrete, blowholes and honeycombing.
- Ideal for the repair of damp or saturated substrates such as sewage treatment plants, water treatment plants, tanks, tunnels, drains, etc.
- On grade, above and below grade on concrete.

PRODUCT INFORMATION

CSC MasterFormat[®]

07 16 13 | POLYMER MODIFIED CEMENT WATERPROOFING

Packaging

23 kg (51 lb) / 11.3 L (3 US gal.) unit

Shelf Life

1 year in original, unopened packaging.

CHARACTERISTICS / ADVANTAGES

- Economical structural repair and resurfacing compound.
- Self Priming, fast and easy to apply. Sprayable.
- Excellent adhesion to damp, green or, saturated surface dry concrete substrates.
- Can be overcoated with resin based coatings after ~ 24 hours at 20°C (68°F).
- Prevents osmotic blistering of resin based coatings over damp concrete substrates.
- Good adhesion after long term water immersion.
- Compatible with coefficient of thermal expansion of concrete.
- Suitable for interior and exterior use.
- Water based, solvent-free and virtually odourless.
- VOC content 0 g/L

APPROVALS / CERTIFICATES

Meets the requirements of CFIA and USDA for use in food plants.

Storage Conditions Store dry at temperatures between 5 °C and 32 °C (41 °F and 89 °F). Protect from freezing and high temperatures. If frozen, discard.

Appearance / Colour Dark Grey, when mixed

TECHNICAL INFORMATION

Compressive Strength	10 °C	20 °C	30 °C	(ASTM C579-B)
	(50 °F)	(68 °F)	(86 °F)	
1 day	~7 MPa (~1015 psi)	~15 MPa (~2176 psi)	~19 MPa (~2757 psi)	
7 days	~35 MPa (~5078 psi)	~44 MPa (~6384 psi)	~47 MPa (~6819 psi)	
28 days	~45 MPa (~6529 psi)	~55 MPa (~7980 psi)	~54 MPa (~7835 psi)	

Pull-Off Strength > 2.5 MPa (> 362 psi) (substrate failure) (CAN/CSA A23.2-6B)

Coefficient of Thermal Expansion ~9.9 X 10⁻⁶/°C (~5.5 x 10⁻⁶/°F) (ASTM C531)

APPLICATION INFORMATION

Mixing Ratio	(By Weight)	
	Component A	1.07 kg
	Component B	2.93 kg
	Component C	16-19 kg depending on consistency required

Yield ~5.5 m²/unit (~59 ft²/unit) when applied at a thickness of 2 mm (80 mil)
~3.7 m²/unit (~40 ft²/unit) when applied at a thickness of 3 mm (120 mil)
Maximum applied thickness of Sikagard®-75 EpoCem® CA is 3 mm (120 mils) per layer.
NOTE: Actual coverage rates and materials consumption will depend upon porosity and profile of substrate, and Component C mix ratio. Test sections are recommended to establish correct coverage.

Product Temperature Condition product between 18 °C to 24 °C (65 °F to 75 °F) before use.

Ambient Air Temperature Minimum 8 °C (46 °F) Maximum 25 °C (77 °F)
Application under extreme conditions (high temperature and low humidity) which can cause fast drying of the product must be avoided as the product does not allow the use of curing compounds. Prevent premature drying by protecting from strong wind and do not expose to direct sun light while fresh. Apply Sikagard®-75 EpoCem® CA mortar on a falling temperature. If applied during rising temperatures “pin holing” and surface defects can occur.

Relative Air Humidity Minimum 20% Maximum: 75 % (during application and cure)

Substrate Temperature Minimum 8 °C (46 °F) Maximum 25 °C (77 °F)
Mixing and Application attempted at Material, Ambient and/or Substrate Temperature conditions less than 18 °C (65 °F) will result in a decrease in product workability and slower cure rates.

Pot Life	10 °C (50 °F)	20 °C (68 °F)	30 °C (86 °F)
	~45 min	~35 min	~25 min

Do not use after this period.

Setting Time	Initial	~4 hours to ~5 hours	(ASTM C266)
	Final	~7 hours to ~8 hours	

Finishing Time: ~45 minutes to ~2 hours after combining components depending on temperature, relative humidity and type of finish required.

	10 °C (50 °F)	20 °C (68 °F)	30 °C (86 °F)
Light mechanical loading	~3 days	~2 days	~1 day
Final cure	~14 days	~7 days	~5 days

Curing times will vary according to ambient air and substrate temperatures and relative humidity.

Freshly applied material should be protected from dampness, condensation and water for at least 24 hours.

Mechanical, chemical and physical properties will be fully achieved at full cure.

Waiting Time / Overcoating

Temperature	10 °C (50 °F)	20 °C (68 °F)	30 °C (86 °F)
Top coat with epoxy coating	~1 day	~18 hours	~12 hours

NOTE: Temporary Moisture Barrier (TMB) effect of Sikagard®-75 EpoCem® CA is limited in time. Maximum overcoating time is 3 days at 20 °C (68 °F). If the 3-day overcoat time has passed, Sikagard®-75 EpoCem® CA must be mechanically prepared to achieve a dust free, open textured profile equivalent to ICRI/ CSP 3.

Permanent Moisture Barrier (PMB) effect is only achieved when Sikagard®-75 EpoCem® CA is sealed with a suitable epoxy coating such as Sikafloor®-1610 or Sika® MT Primer to form a permanent vapour barrier.

Maximum surface moisture content of Sikagard®-75 EpoCem® CA before application of standard Sikafloor®, Sikagard® or Sikalastic® resin-based coatings must be ≤ 4 % by mass (pbw – part by weight) as measured with a Tramex® CME/CMExpert type concrete moisture meter. Moisture tolerant primers; Sikafloor®-1610 and Sika® MT Primer can be applied over Sikagard®-75 EpoCem® CA if the surface moisture content is < 6 % by mass (pbw – part by weight) as measured with Tramex® CME/CMExpert type concrete moisture meter.

BASIS OF PRODUCT DATA

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

Properties tested at 23 °C (73 °F) and 50 % R.H. unless stated otherwise.

LIMITATIONS

- Sikagard®-75 EpoCem® CA is best installed by skilled and experienced applicators. Contact Sika Canada for advice and recommendations.
- Prior to application, measure and confirm Substrate Moisture Content, Ambient Relative Humidity, Ambient and Surface Temperature and Dew Point. During installation, confirm and record above values at least once every three (3) hours, or more frequently whenever conditions change (e.g. Ambient Temperature rise/fall, Relative Humidity increase/decrease, etc.).
- Direct-fired gas or kerosene heaters produce by-

products that can have adverse effects on curing. To avoid this occurrence, heaters must be exhausted to the exterior of the building to avoid defects such as amine blush, whitening, loss of adhesion or other surface deficiencies.

- Always ensure good ventilation when using Sikagard®-75 EpoCem® CA in a confined space to remove excess moisture.
- Do not apply Sikagard® materials to concrete substrate containing aggregates susceptible to ASR (Alkali Silica Reaction) due to risk of natural alkali redistribution below the Sikagard® product after application. If concrete substrate has or is suspected to have ASR (Alkali Silica Reaction) present, do not proceed. Consult with design professional prior to use.
- Application on green or early concrete (before shrinkage cracks have fully developed in the base concrete) may result in post application reflective cracking on the surface.
- Maximum applied thickness of Sikagard®-75 EpoCem® CA : 3 mm/coat (120 mils/layer).
- This product is not designed for negative side waterproofing.

- Do not use on surfaces exhibiting hydrostatic pressure.
- Sikagard®-75 EpoCem® CA will discolour over time when exposed to sunlight (UV) and under certain artificial lighting conditions. The product is not intended as a finish and must be overcoated.

ENVIRONMENT, HEALTH & SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

Concrete:

The concrete substrate must be clean and sound. Remove all dust, dirt, existing paint films, efflorescence, exudates, laitance, form oils, hydraulic or fuel oils, brake fluid, grease, fungus, mildew, biological residues or any other contaminants which may prohibit good bond. Green concrete may be over coated as soon as mechanical preparation is possible. The compressive strength of the concrete should be at least 25 MPa (3625 psi) at 28 days and at least 1.5 MPa (218 psi) in tension at the time of Sikagard®-75 EpoCem® CA application. Prepare the surface by appropriate mechanical means, in order to achieve an open textured profile equivalent to ICRI / CSP 4 - 5. If in doubt, apply a test area first to confirm acceptable performance. Weak or loose concrete must be removed and surface defects such as blow holes and voids must be fully exposed. Repairs to the substrate, filling of blow holes / voids and surface levelling must be carried out using an appropriate moisture tolerant, structural Sika® profiling mortar. Contact Sika® Canada for recommendations. Dampen concrete substrate surface to be repaired with clean water, surface should be saturated surface dry (SSD) prior to application of Sikagard®-75 EpoCem® CA.

Common Steel:

All steel to be coated must be dry, clean and stable. Remove all existing treatments such as coatings, sealers, wax, and contaminants i.e. dirt, dust, grease, oils, and foreign matter, which will interfere with the adhesion of Sikagard®-75 EpoCem® CA. Prepare steel substrates by appropriate mechanical means, such as abrasive blast-cleaning in order to achieve clean white metal profile equivalent to SSPC-SP10, Near White Metal, 2 to 4 mils anchor profile and apply Sikagard®-75 EpoCem® CA before oxidation of the steel occurs.

MIXING

Do not hand mix Sikagard® materials. Mechanical mix only.

Pre-mix Component A and Component B by shaking vigorously in their respective containers for 30 seconds to ensure all solids are uniformly in suspension. Pour the binder mixture (A + B) into a clean, dry 20 L (5 US gal.) pail. Blend the combined Components (A+B) at low speed (300 - 450 rpm) thoroughly for 30 seconds using a drill fitted with an Exomixer® or Jiffy type paddle suited to the dimensions of the mixing container. Progressively add Component C while mixing, keeping the mixing paddle in the mortar to minimize entrapped air. Continue mixing thoroughly for three (3) minutes after complete addition of Component C. During the mixing operation, scrape down the sides and bottom of the pail with a flat or straight edge trowel at least once to ensure thorough mixing.

Note: The consistency of the mix may be adjusted to suit application requirements by slightly reducing the Component C powder. Contact Sika Canada for more information. Under no circumstances add additional water to the mix, which would disturb the surface finish and cause discolouration. A seamless finish can be achieved if a wet edge is maintained during application.

APPLICATION

At the time of application, surface should be saturated surface dry (SSD). Sikagard®-75 EpoCem® CA can be applied to the prepared substrate with a trowel and hawk. A lightly moistened rubber sponge float or mason's brush may be used as required to provide a fine textured finish. A steel trowel may be used to provide a denser, smooth finish. To repair surface irregularities and holes greater than 3 mm (120 mils) in depth, consult Sika Canada.

Alternatively, Sikagard®-75 EpoCem® CA may be spray-applied. For spray application information, contact Sika Canada.

CLEAN UP

Clean all tools and equipment immediately after use with water. Once hardened, the product can only be removed mechanically.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

LEGAL NOTES

The information, and in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request or may be downloaded from our website at: www.sika.ca

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Product Data Sheet

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